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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Russell Vaughan Meddes

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EXAMINER

RO, YONG-SUK

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/574,998	Applicant(s) MEDDES ET AL.	
	Examiner Yong-Suk Ro	Art Unit 3676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 6 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 6 recites the housing that formed form a composite material that is not steel (from claim 1) comprises thin-walled metal cylinder. Nowhere in the specification disclose or suggest that metal is a composite material. The filler material in the composite material can be a metal (page 7 of specification, line 24-27), other than steel, but not metal itself.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 recites the housing comprises a thin-walled metal cylinder, which is confusing with respect to the limitation in claim1 that the composite material is not steel

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as metal encompasses steel, and examiner found that nowhere application has basis for a purely metal cylinder.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 4-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Brieger (4756371) in view of Yang et al. (6520258)

Brieger discloses a similar device, comprising:

Re claims 1, 9:

- a carrier 60 for at least one shaped charge S_H , S_A (Col. 6:40, 46-48, Fig. 5).
- the carrier being disposable in use within a well bore 11.
- the carrier 60 comprising a housing being non-frangible in normal use (Col. 6:42-43, Figs. 5, 6). Fig. 6 depicts the housing 60 remains intact after firing of shaped charge.
- the housing being arranged substantially to contain debris 72 created within the carrier 60 as a result of firing of the at least one shaped charge (Fig. 6, Col. 6:42-45, 58-62).

Bierger is silent on the housing being a composite material that is not steel.

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Yang et al. teach the carrier/housing 512 formed from a composite material that is not steel, i.e., plastic or elastomer (i.e., fig. 3A, col. 7:12). The inner housing 510 is intended to absorb shock waves (i.e., col. 6:67-7:1) and the carrier is made of material similar to that of the carrier of instant application so it is capable of containing debris.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the material of housing in Berger with the composite material taught by Yang et al. in order to achieve predictable debris containment, in an attempt to eliminate the obstruction in the passage of tool after firing.

Yang et al. further disclose

Re claim 2:

- the housing 512 comprises an inner housing 510 which is at least partially encompassed by an outer composite material overwrap (i.e., fig. 3A, col. 7:32-55)

Re claim 3:

- the inner housing 510 is substantially of metal (i.e., col. 7:42)

Claim 4 is pertinent to claim 1.

Re claim 5:

- the housing comprises a thin-walled cylinder 512.

Re claim 6:

- the housing comprises a thin-walled metal cylinder (i.e., col. 7:12).

Bierger further disclose

Re claims 7, 8:

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- the carrier 60 has at least one port 68_A, 68_H formed therein (Fig. 5)

Re claim 13:

- a perforating gun T comprising a carrier 60 (Fig. 5).

Brieger further discloses a similar method, comprising:

Re claim 14:

- providing a perforating gun T (Fig. 5).
- positioning the perforating gun T in the well borehole 11 (Fig. 5).
- perforating the borehole by firing the perforating gun (Fig. 6).
- retrieving debris 72 resulting from the step of perforating by recovering the carrier 60 of the perforating gun T (Fig. 6), the carrier 60 containing debris resulting from the firing (Col. 6:42-45, 58-62).

7. Claims 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Brieger (4756371) and Yang et al.(6520258), in view of Willis et al. (5564999).

Re claims 10-11: Brieger and Yang et al. is silent on composite material including longitudinally arranged fibers in claim 10, and composite material including circumferentially arranged fibers in claim 11.

Willis teaches an explosive carrier used in a wellbore where that carrier is formed from plastic composite material with fiber glass (i.e., col. 3:23-26). Therefore, it would be obvious to use a plastic composite material as taught by Willis in the system of Brieger and Yang et al. in order to achieve predictable debris containment, in an attempt to eliminate the obstruction in the passage of tool after firing.

Further, it is noted that the mechanical property, such as tension and compression, of composite material depends on the arrangement of fiber. The case law has held that “a particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation”. In *re Antonie*, 559 F2d, 618, 195USPQ 6 (CCPA 1977).

Thus, the examiner takes OFFICIAL NOTICE that it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the fiber arrangement longitudinally or circumferentially by routine optimization of fiber, in order to achieve optimum mechanical properties of the composite material.

Re claim 12: Brieger and Yang et al. is silent on circumferentially arranged fibers have respective predetermined tensions.

Willis teaches an explosive carrier used in a wellbore where that carrier is formed from plastic composite material with fiber glass (i.e., col. 3:23-26). Therefore, it would be obvious to use a plastic composite material as taught by Willis in the system of Brieger and Yang et al. in order to achieve predictable debris containment, in an attempt to eliminate the obstruction in the passage of tool after firing.

Further, it is noted that the mechanical property, such as tension and compression, of composite material depends on the arrangement of fiber. The case law has held that “a particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of

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the optimum or workable ranges of said variable might be characterized as routine experimentation". In *re Antonie*, 559 F2d, 618, 195USPQ 6 (CCPA 1977).

Thus, the examiner takes OFFICIAL NOTICE that it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the fiber arrangement circumferentially by routine optimization of fiber, in order to have ideal predetermined tension of the composite material.

Response to Arguments

8. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues cited prior art does not disclose/suggest a fiber reinforced composite carrier will retain debris after detonation. However, the intended purpose of the carrier of Willis is not germane to the limitations of the apparatus claims. Willis was used merely to teach that it is well known to form a composite material explosive carrier with the claimed fiber arrangement and not for any other structural or functional features. Applicant is arguing the Willis reference as if applied under 35 USC 102 and not 35 USC 103.

In response to applicant's argument that cited prior art does not disclose/suggest a fiber reinforced composite carrier will retain debris after detonation, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the

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test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Further, regarding the Examiner's taking of OFFICIAL NOTICE with respect to claims 10-12, it is noted that this position was not traversed and as such has been repeated and is held to be agreed to by Applicant.

For priority, applicant said that the copy of the priority document is believed to have been transmitted to the U.S. patent office by the International Bureau. However, examiner could not find the copy of the priority document. Applicant must file a *certified copy* of the GB 032367.3 application as required by 35 U.S.C. 119(b), in order to obtain the benefit of priority.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong-Suk Ro whose telephone number is 571-270-5466. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shane Bomar can be reached on 571-272-7026. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Y.R/

/Jennifer H Gay/
Primary Examiner, Art Unit 3676